

# **ESGF USER INTERFACE WORKING TEAM (ESGF-UIWT): PROGRESS UPDATE & FUTURE ROADMAP**

ESGF F2F Workshop,  
Monterey, CA, December 2015



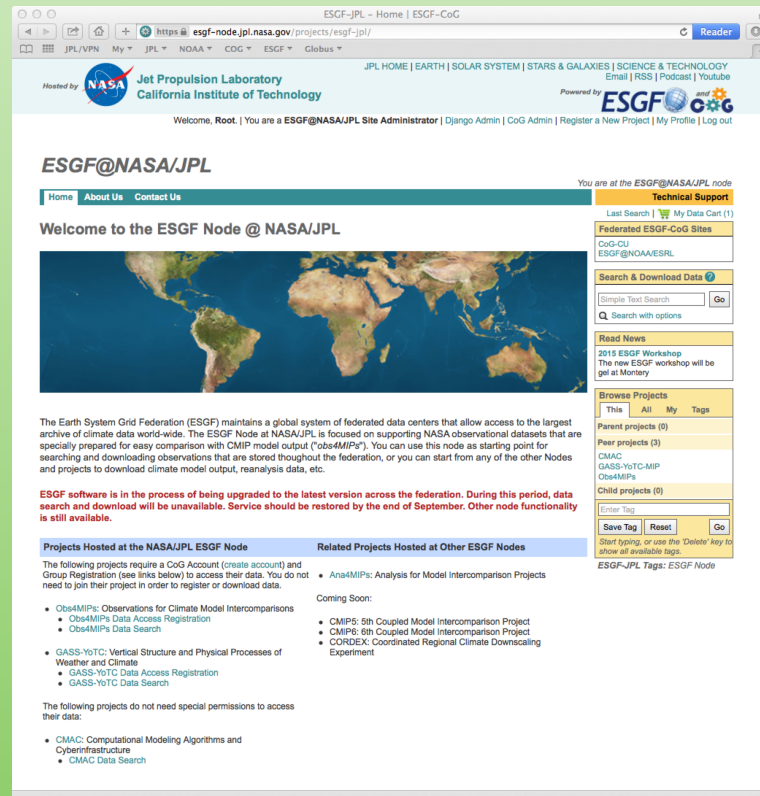
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# 2015 Progress Report

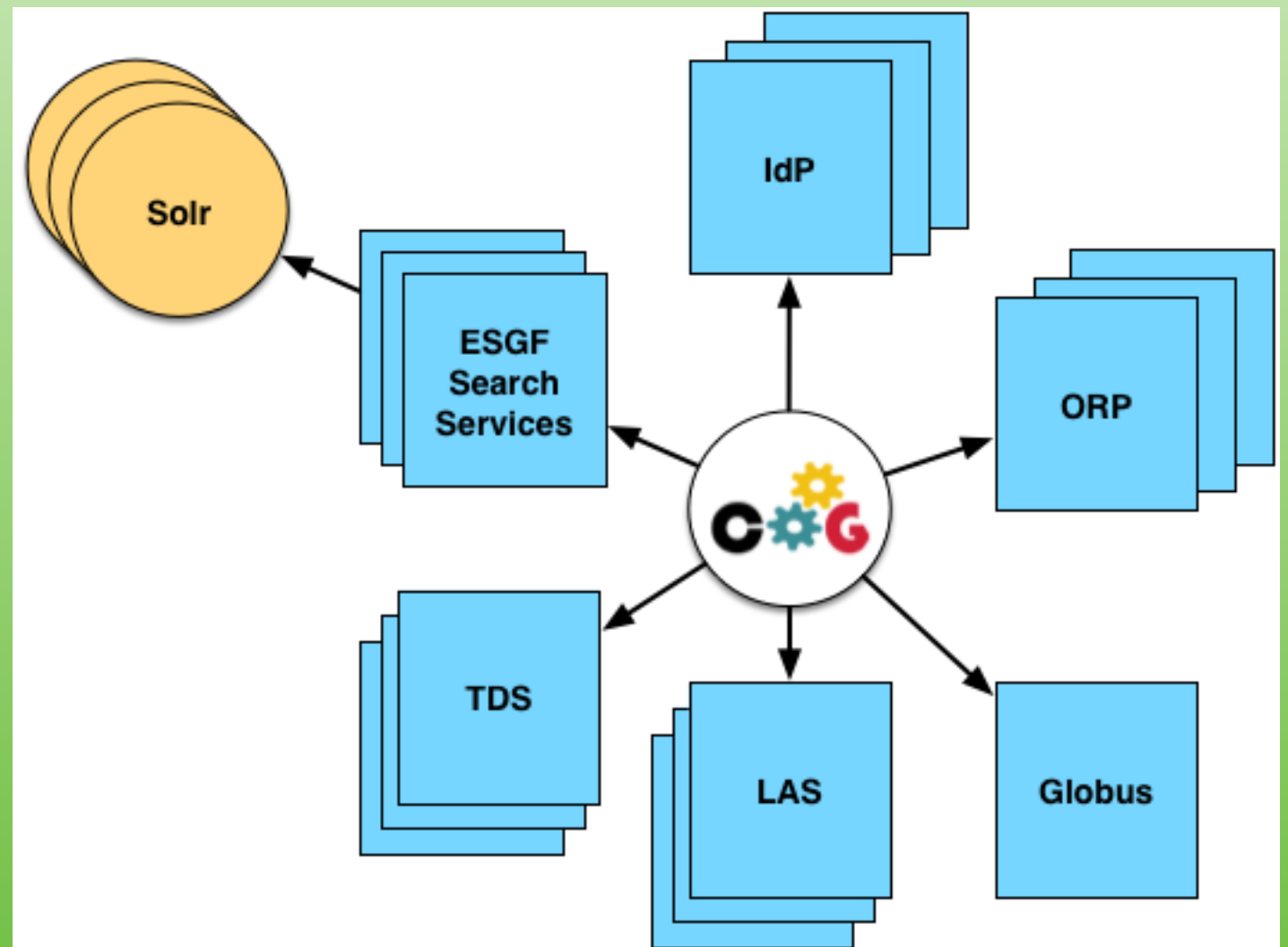
- Throughout 2015, the ESGF-UIWT has worked relentlessly towards the goal of making CoG the next generation ESGF User Interface
- The ESGF security crisis has somewhat “forced” a replacement that would have otherwise been slower and more controversial



- 2015: 16 CoG releases (major + patches)!
- See details at: <https://www.earthsystemcog.org/projects/cog/download/>

# 2015 Major Achievements

- Integration of CoG installation with ESGF installer
  - ▶ CoG and dependencies are now installed as part of ESGF 2.X software stack
  - ▶ CoG runs behind Apache httpd through mod\_wsgi
  - ▶ CoG provides an entry point for human users into the other ESGF services and engines such as Search, ORP, IdP, TDS, LAS, Globus, etc...
  - ▶ Note: the same esgf-cog script can be run standalone to upgrade CoG outside of ESGF release



# 2015 Major Achievements

- Improved and evolved the CoG federation model
  - ▶ Exchange of information among nodes (projects, users, tags)
  - ▶ Admin UI for selecting peer nodes and triggering synchronization of information
  - ▶ SSO via OpenID including sites that have ESGF-signed certificates
  - ▶ Support IdP selector on login page
  - ▶ UI to facilitate user registration with ESGF access control groups

**Federated ESGF-CoG Sites**  
 CoG-CU  
 ESGF@NOAA/ESRL

**Browse Projects**  
 This All My Tags

Ana4MIPs  
 CFSS  
 Climate-Indices  
 Climate\_Informatics  
 climatehealth  
 ClimateTranslator  
 climatewater  
 CMAC  
 CMDTF  
 CMIP5QC  
 CoG  
 CoupledNEMS  
 CouplingTestbed  
 CREATE-IP  
 Cupid  
 CW2010  
 CW2013  
 CW2015  
 DCMIP

Enter Tag  
 Save Tag Reset Go  
 Start typing, or use the 'Delete' key to show all available tags.  
 ESGF-JPL Tags: ESGF Node

## CoG Peers Configuration

Use the check-boxes below to enable displaying of projects from remote CoG peers.

CoG Peer Nodes		
Site name	Domain	Enable?
CoG-CU	www.earthsystemcog.org	<input checked="" type="checkbox"/>
ESGF@NOAA/ESRL	cog-esgf.esrl.noaa.gov	<input checked="" type="checkbox"/>
ESGF@DOE/LLNL	pcmdi9.llnl.gov	<input type="checkbox"/>

Reset

Submit

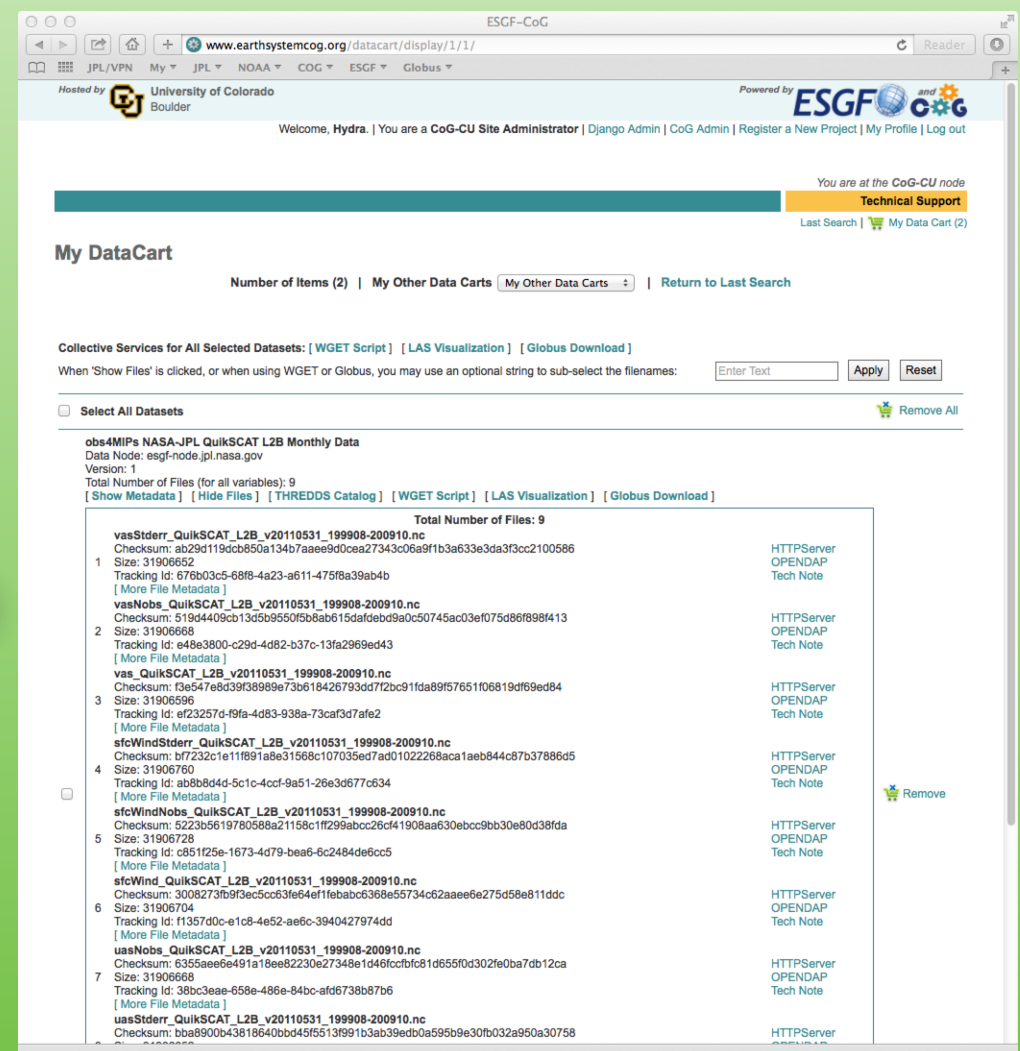
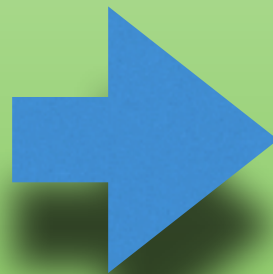
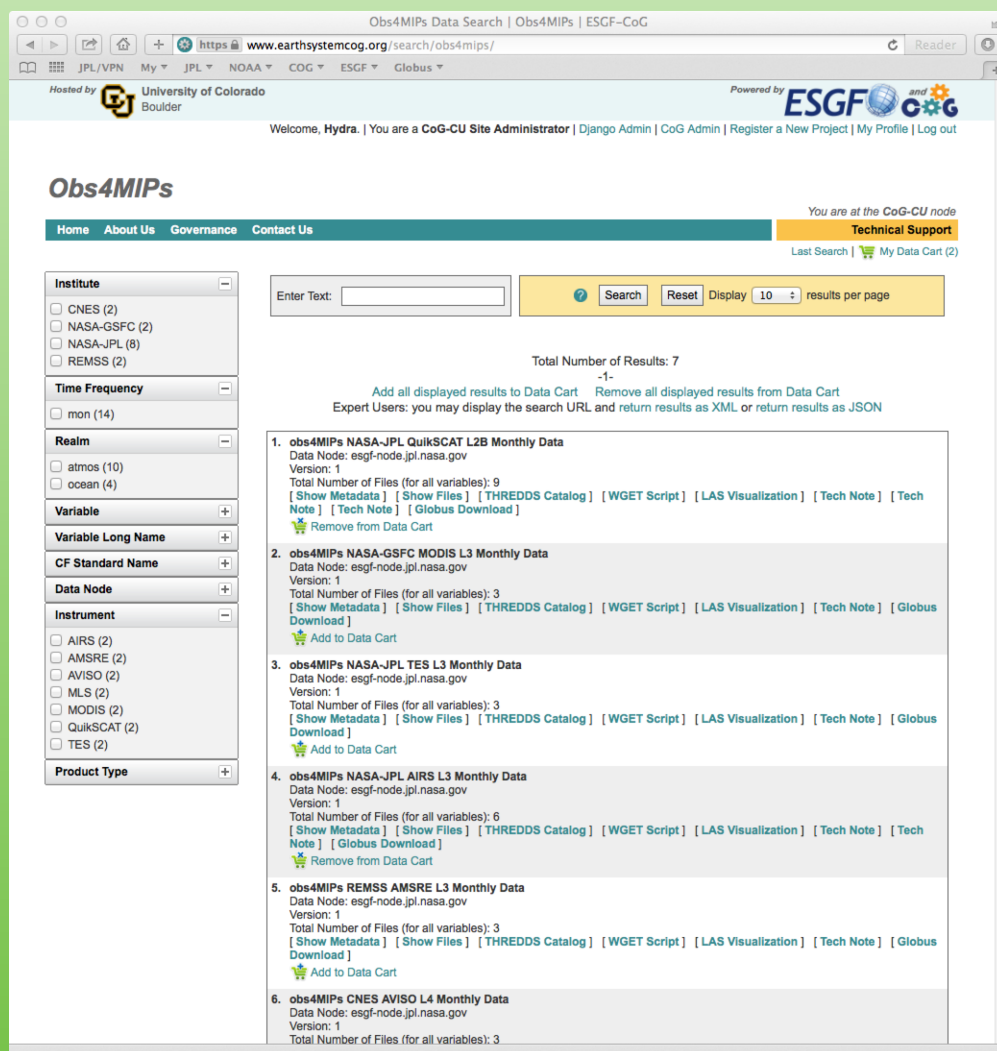
[Synchronize with Peer CoGs Now](#)

## CoG Peer Nodes Synchronization

Synchronization Report					
Site Name	Domain	Number of Projects	Number of Users	Report Document	Sync Status
CoG-CU	www.earthsystemcog.org	92	237	<a href="#">Shared Projects</a>	OK
ESGF@NASA/JPL	esgf-node.jpl.nasa.gov	1	26	<a href="#">Shared Projects</a>	OK
ESGF@NOAA/ESRL	cog-esgf.esrl.noaa.gov	17	846	<a href="#">Shared Projects</a>	OK
Total		110	1109		

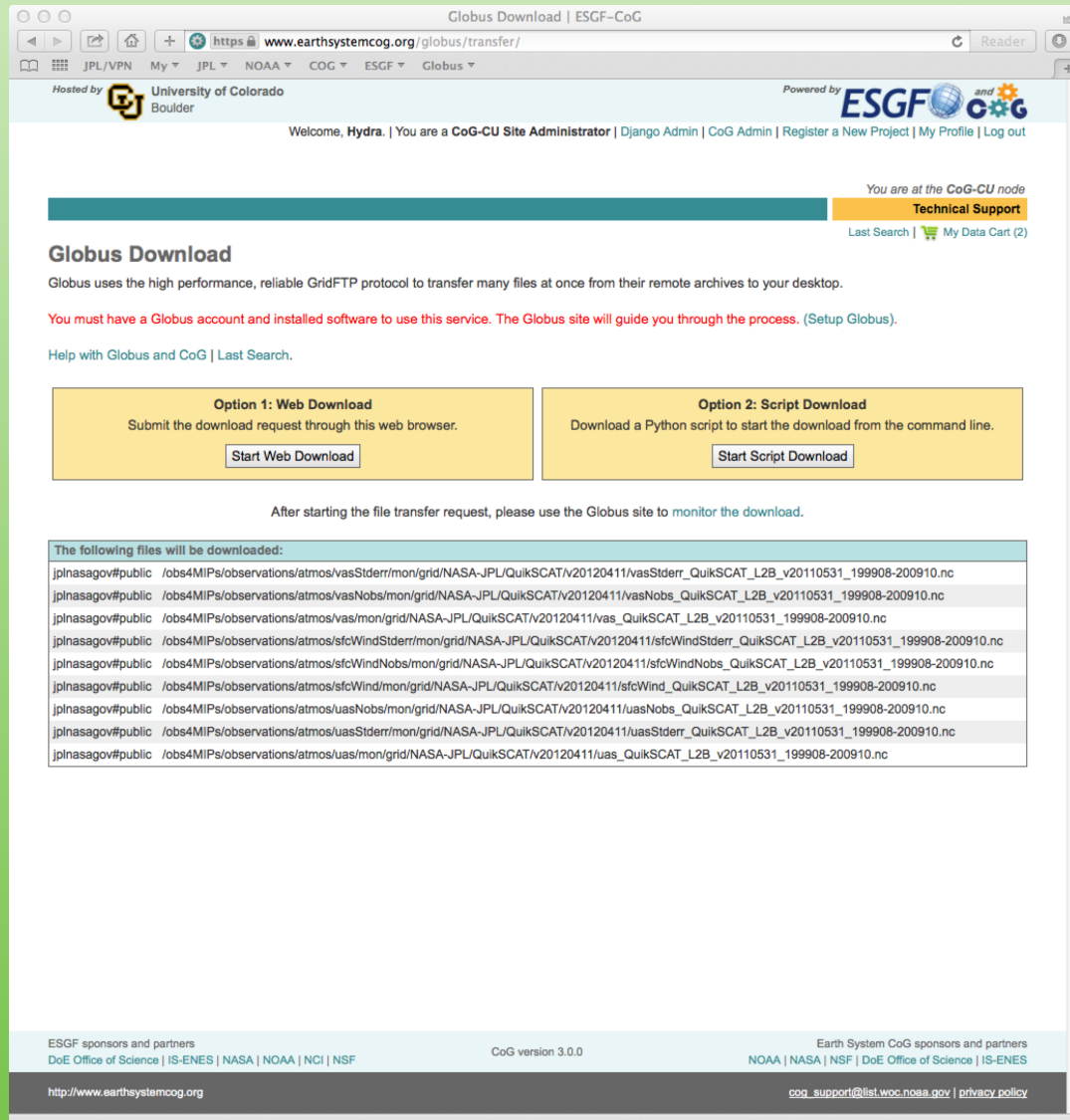


- Improvement and upgrade of interface to ESGF Search Services
  - ▶ New admin features for customizing each project-level search
  - ▶ Improvements to search UI: bread crumbing, “last search”, selection of multiple options per facet, export of results as XML or JSON, display of Tech-Notes
  - ▶ Many usability improvements to Data Cart
  - ▶ Support for “local shard” (targeting local shard to find files to download)



# 2015 Major Achievements

- Integration with Globus online service for data download
  - ▶ Major improvement in usability, performance, portability (no more wget!)
  - ▶ For now, it works only for public data (no additional authorization required)
  - ▶ Thanks to: Lukasz, Rachana @ ANL, Brian Knosp, Robert Ferraro, Luca @ JPL



Globus Download | ESGF-CoG

Powered by **ESGF** and **CoG**

Welcome, Hydra. | You are a CoG-CU Site Administrator | Django Admin | CoG Admin | Register a New Project | My Profile | Log out

You are at the CoG-CU node

**Technical Support**

Last Search | My Data Cart (2)

### Globus Download

Globus uses the high performance, reliable GridFTP protocol to transfer many files at once from their remote archives to your desktop.

You must have a Globus account and installed software to use this service. The Globus site will guide you through the process. (Setup Globus).

Help with Globus and CoG | Last Search.

**Option 1: Web Download**

Submit the download request through this web browser.

[Start Web Download](#)

**Option 2: Script Download**

Download a Python script to start the download from the command line.

[Start Script Download](#)

After starting the file transfer request, please use the Globus site to monitor the download.

The following files will be downloaded:

jplnasagov#public	/obs4MIPs/observations/atmos/vasStderr/mon/grid/NASA-JPL/QuikSCAT/v20120411/vasStderr_QuikSCAT_L2B_v20110531_199908-200910.nc
jplnasagov#public	/obs4MIPs/observations/atmos/vasNobs/mon/grid/NASA-JPL/QuikSCAT/v20120411/vasNobs_QuikSCAT_L2B_v20110531_199908-200910.nc
jplnasagov#public	/obs4MIPs/observations/atmos/vas/mon/grid/NASA-JPL/QuikSCAT/v20120411/vas_QuikSCAT_L2B_v20110531_199908-200910.nc
jplnasagov#public	/obs4MIPs/observations/atmos/sfcWindStderr/mon/grid/NASA-JPL/QuikSCAT/v20120411/sfcWindStderr_QuikSCAT_L2B_v20110531_199908-200910.nc
jplnasagov#public	/obs4MIPs/observations/atmos/sfcWindNobs/mon/grid/NASA-JPL/QuikSCAT/v20120411/sfcWindNobs_QuikSCAT_L2B_v20110531_199908-200910.nc
jplnasagov#public	/obs4MIPs/observations/atmos/sfcWind/mon/grid/NASA-JPL/QuikSCAT/v20120411/sfcWind_QuikSCAT_L2B_v20110531_199908-200910.nc
jplnasagov#public	/obs4MIPs/observations/atmos/uasNobs/mon/grid/NASA-JPL/QuikSCAT/v20120411/uasNobs_QuikSCAT_L2B_v20110531_199908-200910.nc
jplnasagov#public	/obs4MIPs/observations/atmos/uasStderr/mon/grid/NASA-JPL/QuikSCAT/v20120411/uasStderr_QuikSCAT_L2B_v20110531_199908-200910.nc
jplnasagov#public	/obs4MIPs/observations/atmos/uas/mon/grid/NASA-JPL/QuikSCAT/v20120411/uas_QuikSCAT_L2B_v20110531_199908-200910.nc

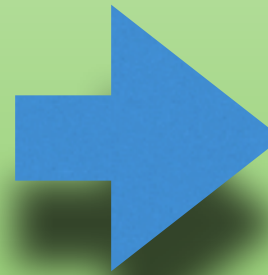
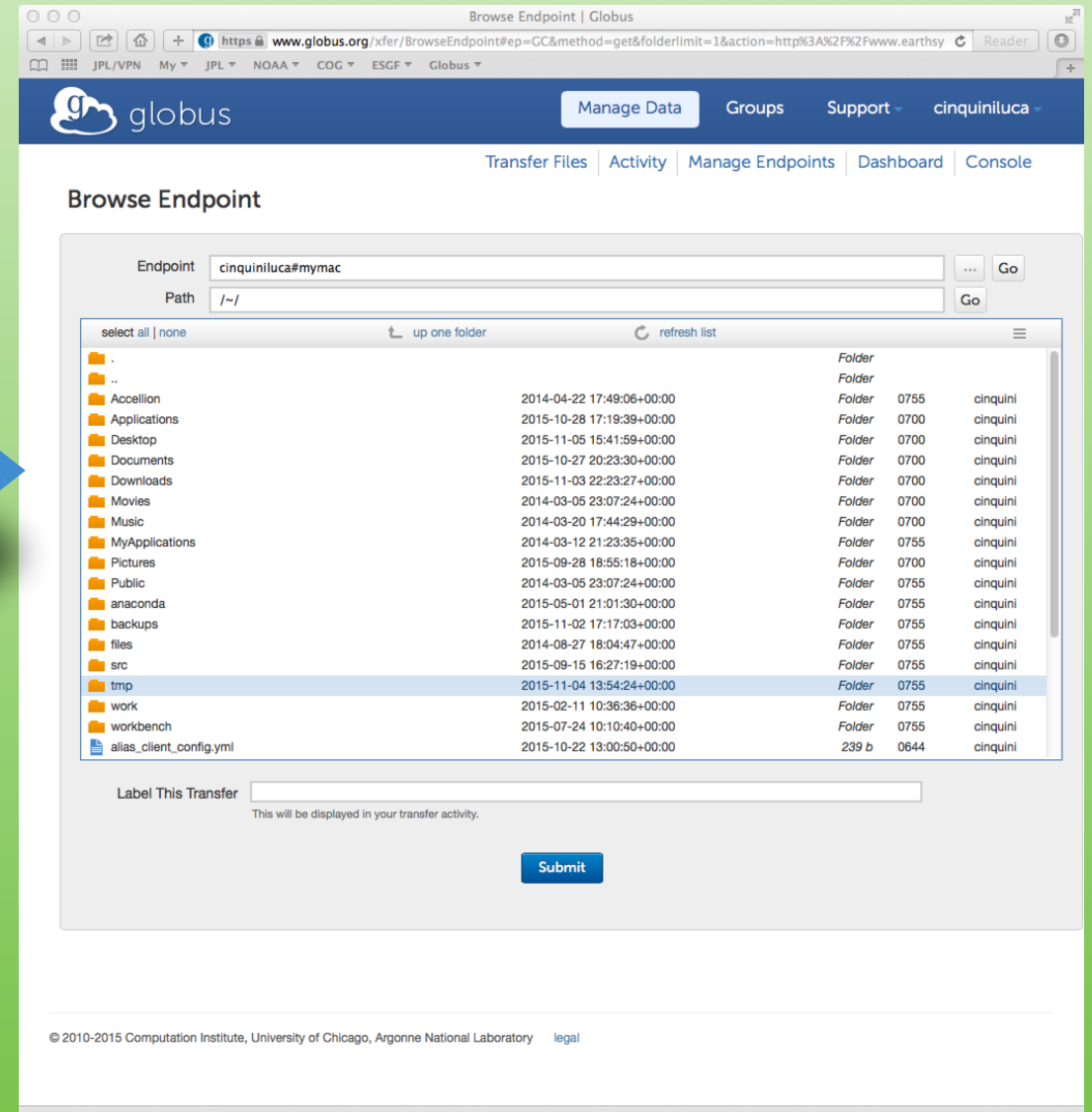
ESGF sponsors and partners  
DoE Office of Science | IS-ENES | NASA | NOAA | NCI | NSF

CoG version 3.0.0

Earth System CoG sponsors and partners  
NOAA | NASA | NSF | DoE Office of Science | IS-ENES

<http://www.earthsystemcog.org>

[cog\\_support@list.woc.noaa.gov](mailto:cog_support@list.woc.noaa.gov) | [privacy policy](#)

Browse Endpoint | Globus

Manage Data Groups Support cinquiniluca

Transfer Files Activity Manage Endpoints Dashboard Console

### Browse Endpoint

Endpoint: cinquiniluca#mymac

Path: /~/

select all | none up one folder refresh list

..	Folder	0755	cinquini
..	Folder	0700	cinquini
Accellion	Folder	0700	cinquini
Applications	Folder	0700	cinquini
Desktop	Folder	0700	cinquini
Documents	Folder	0700	cinquini
Downloads	Folder	0700	cinquini
Movies	Folder	0700	cinquini
Music	Folder	0700	cinquini
MyApplications	Folder	0755	cinquini
Pictures	Folder	0700	cinquini
Public	Folder	0755	cinquini
anaconda	Folder	0755	cinquini
backups	Folder	0755	cinquini
files	Folder	0755	cinquini
src	Folder	0755	cinquini
tmp	Folder	0755	cinquini
work	Folder	0755	cinquini
workbench	Folder	0755	cinquini
alias_client_config.yml	239 b	0644	cinquini

Label This Transfer

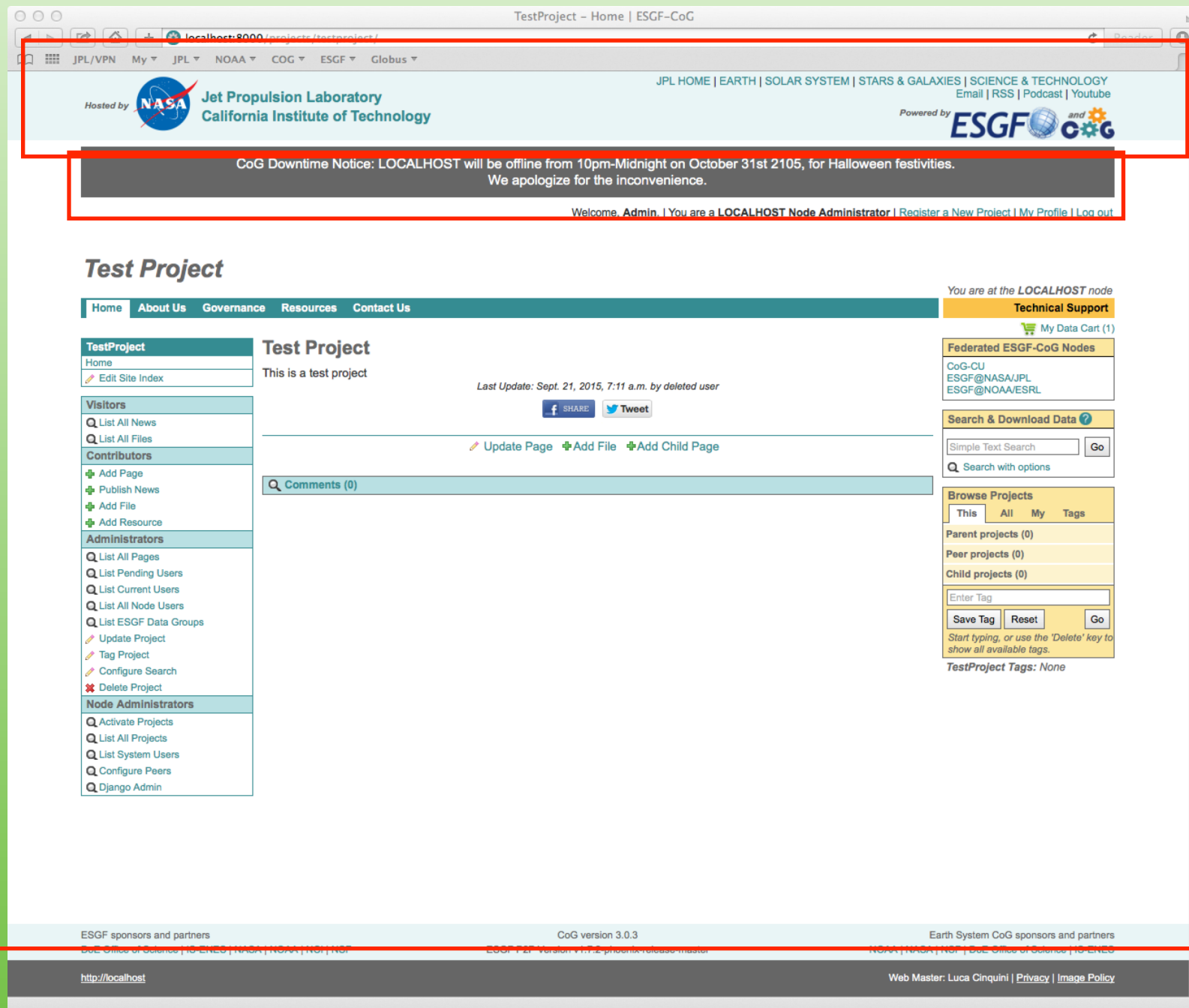
This will be displayed in your transfer activity.

[Submit](#)

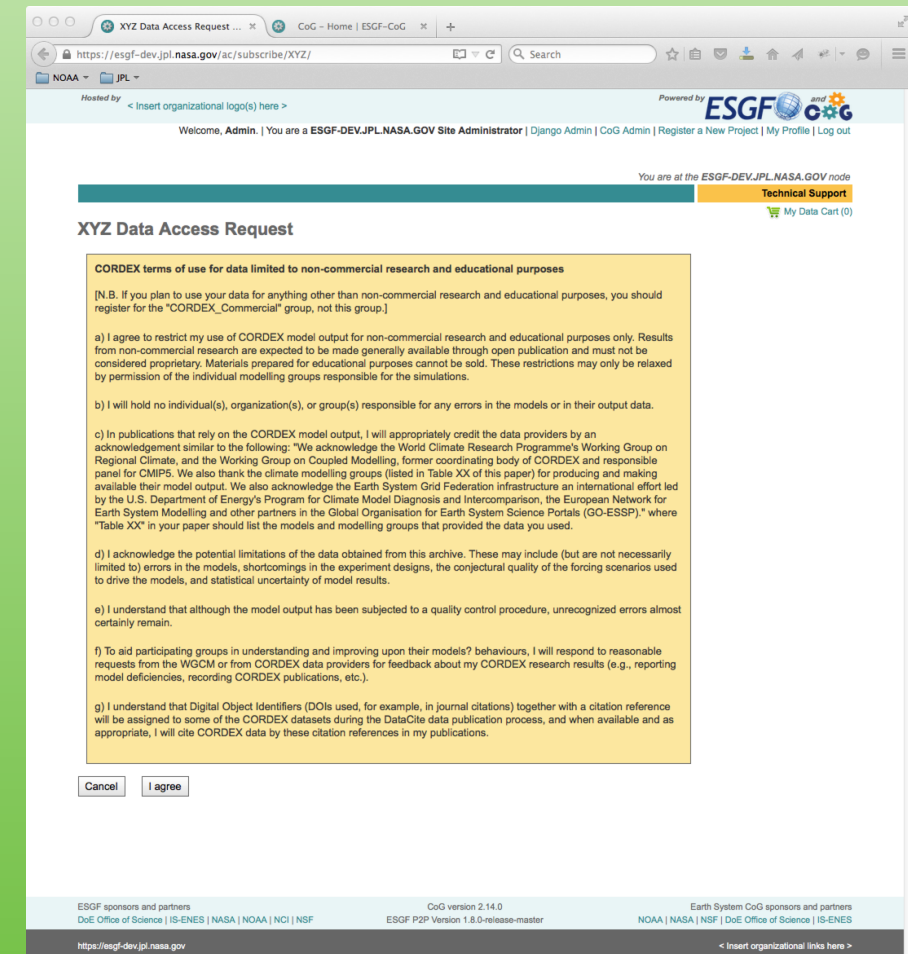
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# 2015 Major Achievements

- Support for Node specific customization
  - ▶ Leverages Django's template loading mechanism
  - ▶ Includes header, footer, notification banner, data access licenses



The screenshot shows the 'TestProject - Home' page of the ESGF-CoG. The page features a header with navigation links (JPL/VPN, My, JPL, NOAA, COG, ESGF, Globus) and a NASA logo. A red box highlights the header area, including the 'Hosted by Jet Propulsion Laboratory California Institute of Technology' and 'Powered by ESGF and CoG' logos. Below the header, a dark banner displays a 'CoG Downtime Notice: LOCALHOST will be offline from 10pm-Midnight on October 31st 2105, for Halloween festivities. We apologize for the inconvenience.' The main content area is titled 'Test Project' and includes a sidebar with links like 'Home', 'About Us', 'Governance', 'Resources', and 'Contact Us'. The sidebar also lists 'TestProject' details, 'Visitors', 'Contributors', 'Administrators', and 'Node Administrators'. The main content area shows 'This is a test project' with a 'Last Update' notice and social media links. A red box highlights the footer area, which includes 'ESGF sponsors and partners', 'CoG version 3.0.3', 'Earth System CoG sponsors and partners', and a 'Web Master: Luca Cinquini' link.



The screenshot shows the 'XYZ Data Access Request' page. The page features a header with navigation links (NOAA, JPL) and a NASA logo. A red box highlights the header area, including the 'Hosted by' and 'Powered by ESGF and CoG' logos. Below the header, a dark banner displays a 'Welcome, Admin. You are a ESGF-DEV.JPL.NASA.GOV Site Administrator' message. The main content area is titled 'XYZ Data Access Request' and includes a 'CORDEX terms of use for data limited to non-commercial research and educational purposes' section. The terms of use are listed in a table with columns for 'This', 'All', 'My', and 'Tags'. The table includes sections for 'Parent projects (0)', 'Peer projects (0)', and 'Child projects (0)'. The table also includes a 'Search & Download Data' section with a 'Simple Text Search' input and a 'Go' button. The table also includes a 'Browse Projects' section with a 'Enter Tag' input and a 'Go' button. The table also includes a 'TestProject Tags: None' section. The footer area includes 'ESGF sponsors and partners', 'CoG version 2.14.0', 'Earth System CoG sponsors and partners', and a 'Web Master: Luca Cinquini' link.

- Infrastructure

- ▶ Several fixes to comply with JPL monthly security scans
- ▶ Upgrade to latest version of Django
- ▶ Switched the database migration process to use Django migrations
- ▶ Several improvements in web site design, style, CSS, layout, etc.
- ▶ Use of captcha to limit spam registrations
- ▶ Major work with agency sponsors to define format for logos in common header and footer
- ▶ Extensive effort on authoring and maintaining up-to-date documentation (hosted on CoG)



- In 2016, the top priority will be to support the deployment of CoG through ESGF:
  - ▶ Support to ESGF node administrators and users
  - ▶ Bug and security fixes as needed
- Secondly, CoG work will prioritize requirements from WIP/CMIP6 panel:
  - ▶ Display of quality flag, PIDs, citations, errata, ...
  - ▶ Integration with ES-DOC metadata services
- Additionally, the team will work with its governance structure to gather requirements, prioritize and implement future development. Possible tasks include:
  - ▶ Support for Globus download of restricted data
  - ▶ Support for delegation of credentials via OAuth
  - ▶ Improvements to registration into ESGF access control groups
  - ▶ Integration with other Python-based ESGF applications:
    - ACME Ingestion (aka Publication) Services
    - ESGF WPS Computing Services
  - ▶ Support for multiple Virtual Organizations within the CoG federation model

Generally speaking, CoG development is a well established and efficient process, but we could use some help in the following areas:

- Consider holding a monthly telco of ESGF/CoG node administrators to gather/prioritize requirements and demo new capabilities
  - ▶ These people would constitute the new “CoG Users Review Group” described in the CoG governance structure
- We must establish a support structure for ESGF/CoG users
  - ▶ Where to send emails and who to answer them
  - ▶ Where to post FAQs
  - ▶ Must interface with existing ESGF User Support Working Team and delegate as much as possible
- We must develop a model for integrating other Python/Django applications without disrupting the main CoG code base
  - ▶ Example: ACME Ingestion services

CoG has an existing governance structure that pre-dates ESGF:

- Steering Committee (SC) - meets twice/year
  - ▶ Includes project sponsors and addresses programmatic matters
  - ▶ Jay Hilo (DOE), Tsendgar Lee (NASA), Annarita Mariotti (NOAA), Sylvie Joussaume (IS-ENES)
- Executive Committee (EC) - meets twice/year
  - ▶ Responsible for overall direction of the project
  - ▶ Dean Williams (DOE), Robert Ferraro (NASA), Cecelia DeLuca (NOAA), Stephen Pascoe (IS-ENES), Luca Cinquini (NASA/NOAA)
- User Review Group (URG) - meets approximately monthly
  - ▶ Participates in demonstrations, provides feedback on requirements, design and usability (captured in tickets)
  - ▶ Must revisit membership based on ESGF adoption
- CoG Core Team - meets weekly
  - ▶ Responsible for design, implementation, user support and metrics collection
  - ▶ Cecelia DeLuca, Sylvia Murphy, Luca Cinquini